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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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W. Kyle Unice

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER

MITCHELL, JASON D

ART UNIT

PAPER NUMBER

2193

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/037,530	Applicant(s) UNICE, W. KYLE	
	Examiner Jason Mitchell	Art Unit 2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-15 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-15, 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to remarks filed 8/03/06.

At Applicant's request claims 1-9, 11-15 and 17-20 have been amended. Claims 1-9, 11-15 and 17-20 are pending in this application.

Response to Arguments

Applicant's arguments filed 8/03/06 have been fully considered but they are not persuasive.

In the second paragraph on pg. 7, Applicant states:

However, this section of Rubini [2.2.1 Version Dependency] discusses a pre-compiled module code, and not a device driver that is already compiled and excluding version identification data of the kernel and kernel symbols associated with this version identification data. In fact, later in the 'Version Dependency section of Rubini, it states that "[i]f you want to compile your module for a particular kernel version, you have to include the specific header files for that kernel." (Rubini at 2.2.1 'Version Dependency' ...)

Examiner respectfully disagrees. The citation Applicant refers to discloses steps to take when defining version dependent drivers. Later in the same section Rubini discloses:

The tricky task is writing code that can be compiled and run on any kernel version from 1.2.13 to 2.0.x and on. The interface to modularization has changed to make setup easier. You can see in hello.c Above that there's no need to declare anything, as long as you deal only with recent kernels.

Rubini then goes on to define what he terms a "portable interface" (i.e. an interface "that can be compiled and run on any kernel version"). It is this disclosure that clearly anticipates "a device driver that is already compiled [can be compiled] and excluding version identification data [and run on any kernel version]".

Further it is noted that Applicant's amendment to claims 1 and 11 reciting "a device driver that is compiled to execute functionality" provides no significant additional limitations to the claim in that the language does not require compilation either before or after distribution of the device driver, but only requires that the driver be compiled to execute the functionality (e.g. as apposed to interpreted).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, 11-15 and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by "Linux Device Drivers" by Rubini (Rubini).

Regarding Claims 1 and 11: Rubini discloses distributing a device driver that is compiled to execute functionality under command from a kernel, wherein the device driver includes code defining application programming interfaces (APIs) the device driver uses to execute the functionality (1.3. Classes of Devices and Modules 'usually each module ... implements only one driver') and excludes header information including version identification data of the kernel and kernel symbols associated with the version identification data (2.2.1 Version Dependency 'kernels define the symbol for you ... that's why *hello.c* above didn't declare it'; 2.2.1 Version Dependency 'code that can be compiled and run on any kernel version ... A portable interface, on the other hand, looks

like the following: ... char kernel_version [] =UTS_RELEASE"); and providing the device driver to a computer via an installation package (1.6 License Terms 'If you write a module ... you are allowed to distribute it in binary form') the device driver to dynamically create the header information for the device driver by obtaining the version identification data and the associated kernel symbols from the kernel (2.2 Compiling and Loading 'The following *Makefile* ... builds a module').

Regarding Claims 2 and 12: The rejections of claims 1 and 11 are incorporated respectively; further Rubini discloses the kernel is part of an operating system (Chapter 1. An Introduction to the Linux Kernel), and is identifiable by the version identification data (1.5. Version Numbering 'version numbering scheme').

Regarding Claims 3 and 13: The rejections of claims 2 and 12 are incorporated respectively; further Rubini discloses the operating system is a Linux operating system (Title 'Linux').

Regarding Claims 4 and 14: The rejections of claims 3 and 13 are incorporated respectively; further Rubini discloses the provided device driver executes the APIs when they are exported from the kernel (1.2 Splitting the Linux Kernel 'The Linux kernel offers support for ... device drivers').

Regarding Claim 5: The rejection of claim 4 is incorporated; further Rubini discloses compiling the device driver into an object file prior to the distribution of the device driver (1.6 License Terms 'If you write a module ... you are allowed to distribute it in binary form').

Regarding Claims 6 and 15: The rejection of claims 5 and 14 are incorporated, respectively; further Rubini discloses obtaining the version identification data from the operating system (2.2.1 Version Dependency 'kernels define the symbol for you') and generating a version object file that includes the version identification data (2.2

Compiling and Loading 'The following *Makefile* ... builds a module').

Note that 'building a module' from the included 'version.h' (2.2 Compiling and Loading 'VER=...version.h') file necessarily includes the step of compiling the 'version.h' file into object code.

Regarding Claims 7: The rejection of claim 6 is incorporated; further Rubini discloses linking the version object file and the device driver (2.2 Compiling and Loading 'The following *Makefile* ... builds a module').

Note that 'building a module' from the included 'version.h' file necessarily includes the step of compiling the 'version.h' (2.2 Compiling and Loading 'VER=...version.h') file into object code and linking it to the rest of the module.

Regarding Claims 8 and 17: The rejections of claims 7 and 15 are incorporated, respectively; further Rubini discloses further comprising obtaining a kernel specific address of a module list associated with the APIs and passing the address to the driver (2.2 Compiling and Loading 'links any unresolved symbol in the module to the symbol table of the running kernel').

Regarding Claim 9: The rejection of claim 2 is incorporated; further, Rubini discloses the device driver is at least one of a printer driver, a serial port device driver, and

Ethernet device driver, and a disk driver device driver (1.3. Classes of Devices and Modules 'A block device is ... a disk').

Regarding Claim 18: The rejection of claim 17 is incorporated; further, Rubini discloses the device driver retrieves a module list export head from the module list and imports APIs while ignoring the version identification data (2.2.1 Version Dependency '#define __NO_VERSION__ ... #include <linux/version.h>').

Regarding Claim 19: The rejection of claim 13 is incorporated; further Rubini discloses the device driver is dynamically loaded in a Linux kernel (1.2 Splitting the Kernel 'Each module is ... dynamically linked to the running kernel').

Regarding Claim 20: The rejection of claim 11 is incorporated; further Rubini discloses an installation module forms part of the device driver (2.2 Compiling and Loading 'The following *Makefile* ... builds a module'; 1.2 Splitting the Kernel 'Each module is ... dynamically linked to the running kernel').

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Mitchell whose telephone number is (571) 272-3728. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jason Mitchell
9/14/06



KAKALI CHAKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100